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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,175	04/19/2004	Habib Vafi	146442	3174

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EXAMINER
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GILMAN, ALEXANDER

ART UNIT	PAPER NUMBER
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2833

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/709,175

Applicant(s)

VAFI ET AL.

Examiner

Alexander D. Gilman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Farnworth et al.

Farnworth et al (US 6,710,612) disclose (Fig. 5) an electronic assembly comprising:

a first layer (47) having a first interface surface and a plurality of cavities (49) formed in the first interface surface,

a second layer (87) having a second interface surface and a plurality of projections (55) disposed at the second interface wherein the plurality of projections are aligned with and disposed at the plurality of cavities,

, and an electrically conductive connecting material (69) disposed at the plurality of cavities such that the connecting material connects the plurality of projections to the respective plurality of cavities.

Claims 1, 8- 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawakami et al.

With regard to claim 1, 9,10, Kawakami et al (US 6,496,162) disclose (Fig. 4, 6) an electronic assembly comprising:

a first layer (2) having a first interface surface and a plurality of cavities formed in the first interface surface,

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a second layer (30) having a second interface surface and a plurality of projections (31) disposed at the second interface wherein the plurality of projections are aligned with and disposed at the plurality of cavities,

, and an electrically conductive connecting material (col. 3, lines 54-56) disposed at the plurality of cavities such that the connecting material connects the plurality of projections to the respective plurality of cavities.

With regard to claims 8, 10, Kawakami et al disclose that the first layer (2) comprises a ceramic substrate', the second layer comprises a diode array having a plurality of backlit photodiodes in electrical communication with the plurality of projections, and the connecting material comprises a conductive conductive solder.

With regard to claim 11, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

With regard to claims 12-14, the limitations regarding spacing the photodiodes are not patentably significant since they relate to the size of the article under consideration which is not ordinarily a matter of invention. In re Yount, 36 C.C.P.A. (Patents) 775, 171 F.2d 317, 80 USPQ 141.

Applicants have presented no argument which convinces that the particular geometry of the projections assembly is significant or is anything more than one of numerous configurations a person of ordinary skill in the art would find obvious for purpose of mounting the fixed assembly to an telescopic boom of a vehicle. In re Dailey, 149 USPQ 47 (CCPA 1976).

Claims 1-7, 9, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Akram et al.

With regard to claims 1, 7, 9, 10, Akram et al (US 6,313,650) disclose (Fig. 8) an electronic assembly comprising:

a first layer (12) having a first interface surface and a plurality of cavities (20) formed in the first interface surface,

a second layer (68) having a second interface surface and a plurality of projections (70) disposed at

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the second interface wherein the plurality of projections are aligned with and disposed at the plurality of cavities,

, and an electrically conductive connecting material (14) disposed at the plurality of cavities such that the connecting material connects the plurality of projections to the respective plurality of cavities.

With regard to claim 2, Akram et al disclose that the plurality of cavities are formed having a depth  $d$  in the first interface surface, the first interface surface is disposed apart from the second interface surface by a gap  $g$ ; and the plurality of projections have a length  $h$  that is equal to or less than the sum of the depth  $d$  and the gap  $g$ .

With regard to claims 3-6, Akram et al disclose that the plurality of projections have geometrical characteristics claimed (col. 1, lines 59-60; col. 6, lines 18-28).

Moreover, the above mentioned limitations are not patentably significant since they relate to the size of the article under consideration which is not ordinarily a matter of invention. In re Yount, 36 C.C.P.A. (Patents) 775, 171 F.2d 317, 80 USPQ 141.

Applicants have presented no argument which convinces that the particular geometry of the projections assembly is significant or is anything more than one of numerous configurations a person of ordinary skill in the art would find obvious for purpose of mounting the fixed assembly to an telescopic boom of a vehicle. In re Dailey, 149 USPQ 47 (CCPA 1976).

Claim 35 is rejected under 35 U.S.C. 102(b) as being anticipated by Degani et al

Degani et al (US 6,100,475) disclose an assembly comprising:

a first layer (13) having a plurality of cavities;

a second layer (20) having a plurality of projections, wherein the plurality of

projections (26) are aligned with and disposed at the plurality of cavities; and

an electrically conductive connecting material (15) disposed at the plurality of cavities

### **Response to Arguments**

Applicant's arguments filed 01/12/2005 have been fully considered but they are not persuasive.

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With regard to claim 1, Applicants argue that the prior art (Farnworth et al) does not disclose the connecting material. However, Farnworth et al disclose (col. 6, lines 6-9) the connecting material.

With regard to claims 1, 9, 10, Applicants argue that the prior art (Kawakami et al) does not disclose the connecting material. However, the thermally fused connection of one (2) of the substrates to the other (30) using projections (31) and through holes is inherently performed by welding the solder projections to metal plated vias (through holes) (For example US 6,100,475).

With regard to claim 1, Applicants argue that the prior art (Farnworth et al and Akram) does not disclose the connecting material connect (not just contacts) plurality of projections.

However, the connection can be separable and non-separable. It is not claimed that connection of the projections to cavities being non-separable. Hence the rejection seems to be correct.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D. Gilman whose telephone number is 571 272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

03/16/2005

*Alexander Gilman*

ALEXANDER GILMAN  
PRIMARY EXAMINER